

### *Abstract*

An antenna array comprising a ground plane and a plurality of elements mounted thereon, said elements being capable of emitting and receiving ultra wideband emissions.

- 5 Elements are arrayed on the ground plane in two parallel rows, a transmitting row, and a receiving row, such that a given element in the receiving row is aligned in at least one direction with a corresponding element in the transmitting row. Additionally, the elements are configured on the ground plane to elicit a symmetrical product response in the azimuthal plane, and to produce horizontally polarized signals. An alternative
- 10 embodiment places the elements with unique inter-element spacing within the rows. An embodiment comprises a fence structure between rows. A method for use comprises the step of transmitting a signal via an element in the transmitting row and receiving said signal through an element in the receiving row, not aligned with the transmitting element.